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IN THE CLAIMS

Please make the following claim substitutions:

1 1. (Currently amended) A data transmission system comprising:
2 a first plurality of Gigabit Ethernet input/output ports, each port adapted to be
3 coupled to a first Gigabit Ethernet link carrying data packets;
4 a multiplexer interface coupled to said first input/output ports;
5 a multiplexer coupled to said multiplexer interface, ~~said data packets~~;
6 a transmitter coupled to said multiplexer; and
7 an optical link coupled to said transmitter;
8 wherein said multiplexer interface comprises a first optical transceiver adapted to detect
9 a first loss of signal in said first Gigabit Ethernet links and generate a signal loss code
10 insert in response to detection of said first loss of signal; and wherein said transmitter
11 multiplexer is adapted to transmitt said signal loss code insert to the receiving node
12 along at least a portion of said optical link in place of said data multiplex said signal loss
13 code insert with said data packets, and wherein said signal loss code insert is
14 transmitted continuously by said transmitter as long as said first loss of signal is
15 detected.

1 2. (Previously presented) The system of claim 1, further comprising:
2 a receiver coupled to said optical link;
3 a demultiplexer coupled to said receiver; and
4 a demultiplexer interface coupled to said demultiplexer,
5 wherein said demultiplexer comprises a plurality of second
6 optical transceivers that are each adapted to be coupled to a
7 plurality of second Gigabit Ethernet links;
8 wherein said demultiplexer interface is adapted to receive
9 said signal loss code insert and in response, prevent at least
10 one of said second optical transceivers from transmitting light.

1 3. (Original) The system of claim 2, further comprising a photo-
2 detector circuit coupled to said demultiplexer;
3 wherein said photo-detector circuit is adapted to detect a

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- 4 second loss of signal in said optical link and in response,
5 generate a deactivate signal and transmit the deactivate signal
6 to said second optical transceivers.

1 4. (Previously presented) The system of claim 2, wherein each of said second optical
2 transceivers comprises a physical layer chip,
3 adapted to detect a third loss of signal in one of said second
4 Gigabit Ethernet links and go into an auto-negotiation stage.

1 5. (Original) The system of claim 1, wherein said signal loss code
2 insert is bit multiplexed with said data packets.

1 6. (Original) The system of claim 1, wherein said multiplexer is
2 adapted to multiplex on a bit by bit basis.

1 7. (Currently amended) A method of communicating the existence of
2 faults in a data transmission system, said method comprising:
3 receiving a plurality of data packets carried on a
4 plurality of first Gigabit Ethernet links at a first plurality
5 of Gigabit Ethernet input/output ports;
6 multiplexing said data packets onto an optical link;
7 detecting a first loss of signal in said first Gigabit Ethernet links and generating a
8 signal loss code insert in response to detecting said first loss of signal; and
9 multiplexing said signal loss code insert with said data packets, and
10 transmitting said signal loss code insert to the receiving node along at least a
11 portion of said optical link in place of said data, wherein said signal loss code insert is
12 transmitted continuously as long as said first loss of signal is detected.

1 8. (Previously presented) The method of claim 7, said optical link coupled to a
2 demultiplexer, said demultiplexer comprising a plurality of second optical transceivers
3 that are each adapted to be coupled to a plurality of second Gigabit Ethernet links, said
4 method further comprising:
5 receiving said signal loss code insert; and

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5 means for transmitting a fault-identifying signal to the receiving node along at
6 least a portion of said link in place of said data in response to detecting said loss of
7 signal, wherein said fault-identifying signal is transmitted continuously to said receiving
8 node as long as said loss of signal is detected.

1 15. (Currently amended) A multiplexer interface comprising:
2 a plurality of input ports, each input port being adapted to receive data from a
3 respective input link,
4 a plurality of output ports, the data received by each input port being applied to a
5 corresponding one of said output ports,
6 means for detecting a loss of signal at any one of said input ports,
7 means for generating a fault-identifying signal in response to detecting said loss
8 of signal, and
9 means for applying said fault-identifying signal to the output port corresponding
10 to one of said input ports, wherein said fault-identifying signal is applied to said output
11 port continuously as long as said loss of signal is detected.

1 16. (Currently amended) The multiplexer interface of claim 15, wherein said data are
2 carried in packets of variable length and wherein said data are 8b/10b-coded encoded
3 using a predetermined code.

1 17. (Currently amended) The multiplexer interface of claim 15, wherein said fault
2 identifying signal is a signal that 8b/10b encoding: said predetermined code does not
3 produce.

1 18. (Currently amended) A multiplexer interface, comprising:
2 at least one input port, said input port being adapted to receive data from a
3 respective input link,
4 at least one output port, the data received by said input port being applied to said
5 output port,
6 means for detecting a loss of signal at said input port,
7 means for generating a fault-identifying signal in response to detecting said loss
8 of signal, and

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9 means for applying said fault-identifying signal to said output port, wherein said
10 fault-identifying signal is applied continuously as long as said loss of signal is detected.

1 19. (Currently amended) The multiplexer interface of claim 18, wherein said data are
2 carried in packets of variable length and wherein said data are 8b/10b-coded encoded
3 using a predetermined code.

1 20. (Currently amended) The multiplexer interface of claim-18 19, wherein said fault
2 identifying signal is a signal that 8b/10b encoding said predetermined code does not
3 produce.

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